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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/330,156	03/29/89	MOHIUDDIN	S 167109CIP

EXAMINER
POLUTTA, M

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ART UNIT	PAPER NUMBER
336	9

DATE MAILED: 08/28/90

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 3/29/89 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1 - 21 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☒ Claims 1 - 11 have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 12 - 21 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____.

13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

Claims 12 and 13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 13 are indefinite because it is not clear if the method is imaging to detect "the presence and assess the severity", or "the presence of assess the severity" of coronary artery disease in humans.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 12-16 and 18-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Crystal.

Crystal discloses a method in which adenosine cause a six fold increase in myocardial blood flow. Adenosine is disclosed to cause vasodilation as papaverine, dipyridamole,

norepinephrine, or nitroglycerine. While Crystal does his work on pigs, not humans, he teaches that adenosine is a vasodilator and causes a myocardial blood flow increase. And while he is not assessing for severity of vascular disease, he is assessing and one would assess and evaluate for wherever the problem was suspected.

The specimen being studied would be non-stressed.

See In re O'Farrell, CAFC, 7 USPQ 1673-1681.

While Crystal does not disclose that the adenosine is naturally occurring, produced as a synthetic molecule, attached to carrier molecules, or administered as a saline solution, it is obvious because these are all standard procedures for administering an agent and are normally used by one of ordinary skill in the art.

With regards to claims 20 and 21, Crystal administers the agent intra-arterially by infusion. While he does not disclose the use of a bolus injection, it is very well-known that that agent can be injected either by infusion or bolus injection. Regarding the amount of agent, it is experimentally obvious to administer an appropriate amount of agent to elicit the desired effect according to the object of study.

Claim 17 is rejected under 35 U.S.C. § 103 as being unpatentable over Crystal et al. in view of Camici et al.

With regards to claim 16, see above.

Camici et al. disclose the use of thallium-201 in clinical cardiology.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use thallium-201 with Crystal's method because this tracer is frequently use in clinical cardiology for the diagnosis of myocardial ischemia and infarction.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication should be directed to Mark O. Polutta at telephone number (703) 557-3125.

M. O. Polutta:wl
August 16, 1990
August 22, 1990

C. FRED ROSENBAUM
S. P. E.
ART UNIT 336